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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,336	08/22/2005	David Ashkenasi	BJA383T	2589
28184 7590 04/28/2009 BOLESH J. SKUTNIK CERAMOPTEC INDUSTRIES, INC. 515 SHAKER RD. EAST LONGMEADOW, MA 01028				
EXAMINER				
CHIEH, DINH D				
ART UNIT		PAPER NUMBER		
2883				
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04/28/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,336

Applicant(s)

ASHKENASI ET AL.

Examiner

ERIN D. CHIEM

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18, and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gu et al. (WO-00/79319 A1).

Regarding claims 20-26, Gu discloses an optical element comprising an optical waveguide having a first cross-section region with a first refractive index (core), a second cross-section region with a second refractive index (cladding), and a boundary region (the boundary between the core and the cladding), wherein “at least one defined portion of the boundary region is provided with a modification” is a change in the refractive index of the material of the first or second cross-sectional region by micro damage at the cross sectional region (Page 7, lines 13-27). The result of the modification is such that the respective portion of the boundary region light is coupled out of the waveguide in a radial (core to boundary to cladding) and uniform diffusive manner (Page 7, line 28 to Page 8, line 2). The modification manner disposed at a plurality of defined portions of the boundary region is of an optical grating manner (Page 9, line 27- Page 11, line 8).

Regarding claims 1-18, the amendment of claim 1 (now a linking claim) changed the patentability consideration from being product claims to **product-by-process** claims in which

the following criteria set forth in MPEP §2113 [R-1] provide the proper guidelines as to how to treat such claims:

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

Regarding claims 1-18, Gu disclose a waveguide provided with a first cross-sectional region having a first refractive index (core), a second cross-sectional area having a second refractive index (cladding) and a boundary region (boundary between core and cladding), wherein at least one defined portion of the boundary region is provided with a modification is a change in the refractive index of the material of the first or second cross-sectional region by micro damage the cross sectional region (Page 7, lines 13-27). The result of the modification is such that the respective portion of the boundary region light is coupled out of the waveguide in a radial (core to boundary to cladding) and uniform diffusive manner (Page 7, line 28 to Page 8, line 2). The modification manner disposed at a plurality of defined portions of the boundary region is of an optical grating manner (Page 9, line 27- Page 11, line 8).

Claims 27-28, 30-31 and 33-34 rejected under 35 U.S.C. 102(b) as being anticipated by Miura et al. EP-01116965 A1).

Regarding claims 27-28, 30-31, and 33-34 Miura discloses an a laser for microstructuring a waveguide such as the invention of claim 20, wherein the laser is constructed to emit at least one light pulse and a focusing device (Para [0028]), the focusing device is implied by disclosing the "focal point." Said laser radiation has a power density of 10^{10} W/cm² or more (Para [0028]). The laser having a mounting for an optical waveguide which is constructed to hold the optical waveguide so that it is displaceable in its longitudinal direction (Para [0043]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Aitken et al. (US 6,573,026 B1). Gu disclose the invention of claim 27 and 28, however Gu does not disclose:

- The laser is constructed to emit light pulses having an energy of 10 nanojoules or less.
- The focusing device is a microscope lens

Aiken disclose the light pulses emitted from the laser for writing on glass is between 1-10 nJ for the purpose of maintaining high oscillation in the order of 100MHz (col. 2, lines 1-17). It would have been obvious to one having ordinary skill in the art to recognize the low power pulse is needed to maintain the preferred high oscillation in the order of 100MHz versus pulses in the

micrometers would reduce the oscillation to the kHz. **The motivation** for maintaining high oscillation such that the modification to the fiber would have a noticeable refractive index change.

Aitken disclose the focusing device is a microscope objective lens (col. 7, lines 4-12) for the purpose of adjustability. **The motivation** for using a microscope objective lens as the focusing device is the lens would be adjustable to compensate for the movement of the fiber to provide better focus.

Response to Arguments

Applicant's arguments filed October 17, 2008 have been fully considered but they are not persuasive. Applicant's main argument challenges the anticipation rejection in Examiner's office action on April 17, 2008. Applicant argues that the prior arts do not teach the waveguide comprising ***both*** modifications of a microdamage and a surface defined by the removal of material. However, the Examiner would like to respectfully point out the verbiage of claim 20 "said modification being formed by a defined portion of the boundary region defining "**at least one of (i)..., and (ii)...**" such verbiage is claiming the structural limitation in the alternate wherein meeting one of the two alternate would fulfill the anticipation requirement of the claim. Furthermore, applicant argues that the prior arts do not teach the method of microdamaging the waveguide is formed by laser radiation. The Examiner would like to reiterate the rationale regarding product-by-process claim limitations on page 5 of the office action; the process of making the product is not given patentable weight in a product claim. The anticipatory

requirement is only pertinent to the structure of the product and the Examiner hereby maintains the rejection since Gu clearly teaches a micro damage waveguide as claimed by applicant.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN D. CHIEM whose telephone number is (571)272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Erin D Chiem/
Examiner, Art Unit 2883

/Frank G Font/
Supervisory Patent Examiner, Art Unit 2883

/edc